

REMARKS

Favorable reconsideration of this application is requested in view of the following remarks. Claims 1-35 are pending, with claims 14-33 being withdrawn.

Claim rejections - 35 U.S.C. § 103

Claims 1-13, 34 and 35 stand rejected being obvious over U.S. Patent No. 5,539,965 (Safari) in view of U.S. Patent No. 5,175,709 (Slayton). Applicants respectfully traverse this rejection.

Claim 1 is directed to a piezocomposite comprising a plurality of composite sheet units. The sintered piezoelectric thin wires are arranged on a surface of each resin layer so as to form void portions between adjacent ones of the sintered piezoelectric thin wires. The plurality of composite sheet units are laminated and the laminated composite sheets are integrated.

By the arrangement of the void portions, the density of the piezocomposite can be reduced. This serves to widen the range in which the acoustic impedance can be controlled. In addition, by laminating the composite sheet units and integrating the laminated composite sheets, the flexibility of the piezocomposite can be improved.

Safari relates to a method for making piezoelectric composites. However, Safari does not disclose or suggest that wires are arranged on a surface of resin layers so as to form void portions between adjacent ones of the wires. Nor does Safari teach or suggest laminating the composite sheet units and integrating the laminated composite sheets.

Slayton does not remedy the deficiencies of Safari. Slayton is directed to an ultrasonic transducer. Although Slayton suggests that "separating layers or segments may comprise such acoustic suppression material as air," this statement does not teach or suggest the void portions as recited in claim 1. Instead, the "separating layers" of Slayton exist between the receiver section and the transmitter section—not between adjacent piezoelectric thin wires. See element 14, for example, of Figure 1. Thus, Slayton's "separating layers" cannot be considered to be void portions between adjacent piezoelectric thin wires.

Moreover, even assuming that ultrasonic wave suppression material 34, as shown in Figure 6, can be considered to teach the use of voids (and Applicants do not believe that it can), the piezoelectric materials 32 are not arranged on a surface of resin layers. Thus, Slayton cannot teach a composite sheet unit that is formed by laminating and integrating resin layers with

piezoelectric thin wires. Thus, the arrangement disclosed in Slayton would not exhibit the benefits of lamination and integration as recited in claim 1, which include increasing the flexibility and strength of the piezocomposite.

Applicants therefore submit that claim 1 is allowable over the cited reference.

Claims 2-11 and 34 depend from claim 1, and are believed allowable for at least the same reasons.

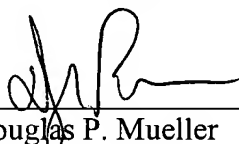
Claims 12, 13 and 35 each recite that the feature where a plurality of composite sheet units are integrated together by lamination. As discussed above, neither Safari nor Slayton teach or suggest this feature. Accordingly, Applicants respectfully submit that claims 12, 13 and 35 are also allowable over the cited reference.

In view of the above, favorable reconsideration in the form of a notice of allowance is requested.

Respectfully submitted,

MERCHANT & GOULD P.C.
P.O. Box 2903
Minneapolis, Minnesota 55402-0903
(612) 332-5300

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Douglas P. Mueller
Reg. No. 30,300
DPM:DTL